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WATER FOR CHILDREN

-A Safe Learning Environment Initiative



UNICEF Bangladesh
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100th Anniversary
of the
National Centre
for
Physical Science
and
Technology



UNICEF/GOVERNMENT OF BANGLADESH

**WATER FOR CHILDREN:
A SAFE LEARNING ENVIRONMENT INITIATIVE**

Water for Children - A Safe Learning Environment Initiative

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ABBREVIATIONS USED IN THIS DOCUMENT

ADA	Accelerated District Approach
ATEO	Assistant Thana Education Officer
CS	Civil Surgeon
DHS	Directorate of Health Services
DPE	Directorate of Primary Education
DPHE	Department of Public Health Engineering
MLGRD&C	Ministry of Local Government, Rural Development and Cooperatives
PMED	Primary & Mass Education Division
PTA	Parents and Teachers Association
SLE	Safe Learning Environment
SMC	School Management Committee
TCT	Thana Core Trainers
TEO	Thana Education Officer
UN	United Nations
UNICEF	United Nations Children Fund
WATSAN	Water and Sanitation
WES	Water and Environmental Sanitation



Strategic Summary	Performance Indicators	Monitoring and Supervision	Assumptions
<ul style="list-style-type: none"> Improve the state of the environment and quality of life, especially of children and women, by reducing the risks of diarrhoeal incidences and parasite worm infestations Enable every household to have access to safe water and sanitation as well as to decide on hygienic behaviours, Make the primary school a resource centre for developing hygienic behaviours among children and teachers and promoting such behaviours in households and the community 	<ul style="list-style-type: none"> Reduction in diarrhoea Reduction in malnutrition Reduction in worm infestation Reduction of time spent by women in water collection Access and use of safe water for drinking/domestic purposes Use of sanitary latrines by household members Hand washing practice by household members Patterns of excreta disposal Improved curriculum contents No of school based projects by students and teachers No of household and community level activities students and teachers 	<ul style="list-style-type: none"> Sample survey (before & after project) and monitoring by UNICEF Monitoring by children MICS by DBS/ UNICEF MICS by DBS/ UNICEF KAP study (before & after project), sample survey/ monitoring by UNICEF Regular monitoring by DPE Sample survey/monitoring (before & after) by UNICEF Monitoring by children 	<ul style="list-style-type: none"> Political will and intersectoral coordination among government agencies in policy making, planning and implementation Ability to reach the poorest people and availability of affordable technology and means within their reach School teachers and SMC members utilize the potentials of the school and their own positions in society towards behavioural development and change
<ul style="list-style-type: none"> Meet basic requirements of water and sanitation facilities in all primary schools of the country Create awareness among school children, teachers, SMC members about health/nutrition benefits from safe water, clean environment and personal hygiene Enable them to take personal action and motivate household and other community members 	<ul style="list-style-type: none"> Use/maintenance patterns of drinking water and separate latrines for girls & boys Attendance/completion (esp of girl students) Change in knowledge, attitude and practice among students, teachers and SMC members No of school based projects by students and teachers No of household and community level activities students and teachers 	<ul style="list-style-type: none"> Regular Monitoring by DPIIE Quarterly enrollment/ attendance report by DPE Sample survey/monitoring (before & after) by UNICEF KAP study (before & after project), sample survey/ monitoring by UNICEF Action research, selected areas Monitoring by children Monitoring by children Action research: selected areas Regular monitoring by DPIIE and DPE 	<ul style="list-style-type: none"> Teachers and SMC members mobilize locally available resources and use external contributions responsibly Teachers and SMC members utilize experiential learning methodology for active participation of students and behavioural development Teachers and SMC members are innovative in directing children to experiment in the local context with available resources
<ul style="list-style-type: none"> 20,000 WATSAN facilities in 4 years through involvement of SMCs School based projects on safe water, hygiene, and sanitation in 20,000 schools of school children and teachers Household/community mobilization by students, teachers and SMC members for safe water use, clean environment and healthy behaviours 	<ul style="list-style-type: none"> Availability of watsan facilities in schools No and quality of school based project Increase in access to water and sanitation facilities Adoption of hygienic practices 	<ul style="list-style-type: none"> Regular monitoring by DPIIE Sample survey/monitoring by UNICEF DPE Annual school survey Regular monitoring by DPE Sample survey/monitoring by UNICEF Monitoring by students MICS by DBS/ UNICEF KAP study, sample survey/ monitoring (before & after) by UNICEF 	<ul style="list-style-type: none"> Effective alliance of all stakeholders Modification of current school schedule to permit proposed innovations TEOs/ATEOs mobilize school based projects Community members have access to necessary means and ability for adopting behavioural change
<ul style="list-style-type: none"> Guidance and motivation by DPIIE, PMED, DIIS as well as political and social/religious leaders at all levels Materials & other resources for 20,000 WATSAN facilities <ul style="list-style-type: none"> Handpumps, PVC materials, Cement (from outside) Sanitary latrines, iron rods, sand, khoa, brick, labour by masons/mistris, unskilled labour Information, Education and Communication materials for 20,000 schools Training for human resources development 	<ul style="list-style-type: none"> Guidelines for implementation Construction as per designs Financing mechanisms Planning at Union parishads Training packages Resource materials for school based projects Trained contractors/masons Trained teachers Trained UP/SMC members 	<ul style="list-style-type: none"> Sample monitoring to assess , the use and effects of guidelines Sample monitoring of training/orientations, types of participants, effects Sample monitoring of delivery mechanisms, installation arrangements, and end use of materials Sample monitoring of materials distribution and their influences School records Sample monitoring of skills and motivation 	<ul style="list-style-type: none"> Proper planning at school, community or union level Coordination among concerned agencies at different levels Required amounts of quality materials are delivered in time through private sector or public sector initiatives Satisfactory delivery of installation/repair services Materials produced are inspiring and innovative Timeliness, synchronization and mutual reinforcement of trainings. (technical aspects, DPIIE, educational aspects, PMED, organizational/ motivational aspects, NGOs) Trained persons practice what they have learned



I. Executive Summary

Access to safe water and sanitation facilities, integrated with clean environment and hygienic behaviors, will lead to health and nutrition benefits and therefore contribute to enhancing the survival and development opportunities of the children of Bangladesh.

This project focusses on providing water and sanitation facilities in primary schools in 50 districts. Safe water and sanitation facilities are every child's basic right. Presently, there are 26,000 schools, nationwide, that lack these facilities. Shortage of safe drinking water combined with poor environmental sanitation and hygiene practices contribute to high diarrhoeal incidence and parasitic infestation, particularly among children. In Bangladesh today, on average, 260,000 children die annually - a third of all child deaths - from the diarrhoeal episodes and causing child growth interruptions which in turn results in malnutrition. The prevalence of parasitic infestations - caused by unclean water - in children is more than 85%, which contributes massively to the nutritional problems facing the children of Bangladesh.

The project is crucial in helping to fulfill the need of school children for clean water. It does not only deal with providing access to safe water and sanitation facilities, but deliberately sets out to create a new mind frame and indeed environment that will support and sustain behavioral change among school children. Through provision of safe water and sanitation facilities for children, a comprehensive approach for improvement of their health, nutritional state and education will be accomplished.

Support for this initiative exists from the highest level of the Government to the beneficiaries in the village. The existing human resources of the Government, primarily that of DPHE and DPE, as well as of Local Government, at the central, district, and thana levels, will be deployed.

For technical and managerial support, UNICEF's current expertise in Water and Environmental Sanitation, Education, and Health and Nutrition Sections, as well as in the Accelerated District Approach, through its field presence, will be engaged in coordination, follow-up and monitoring to ensure successful implementation of the project.



II. Situation Analysis

Access to water and sanitation facilities is every child's basic right. This proposal for construction of safe water and sanitation facilities in primary schools is crucial in helping to fulfill this right, and meet this need. It also deals with the issue of creating a new mind frame and indeed environment that will support and sustain improved hygiene practices in individuals, and together as a community. Facilitating the construction and maintenance of water and sanitation facilities in primary schools, experiential learning and participation, community mobilization, and the development of primary schools as a resource center for supporting improved sanitation and hygiene practices are the activities at the center of this project.

Access to and use of adequate safe water is a prerequisite to reducing high diarrhoeal incidence and parasitic infestation, particularly among children. There are evidences to support that availability of adequate safe water is strongly correlated to the use of safe water for household work as well as hand washing with appropriate rubbing agents after defecation. The combined effects of these, together with the effort to keep a clean environment are instrumental in ensuring health benefits among children.

Sustained efforts have resulted in high water supply coverage throughout Bangladesh. Just a generation ago people drank from open ponds and streams. Today nearly everyone (97%) has access to, and drinks from, a protected tubewell (EPF 1995). This behavioural change was promoted through the widespread installation of the handpump tubewell. However despite this high coverage, there has been surprisingly little reduction in water-borne and hygiene-related sickness.

Another surprising point is that in spite of this success as mentioned above, nearly half of all rural primary schools still do not have basic water and sanitation facilities. This also an important factor in discouraging girls from attending school.

The provision of such safe water and sanitary latrines has got to be extended to these deprived schools. UNICEF/Department of Public Health Engineering (DPHE) experience has shown that this effort becomes a catalyst in raising the girls' attendance rate by at least 11%. Furthermore, it provides a tremendous opportunity to develop good sanitation and hygiene practices amongst school children, their parents and the wider community, which remains the major environmental and health challenge in Bangladesh

With the Prime Minister recently stating that all primary schools must have water supply and separate lavatories for boys and girls, the commitment of the Government to the outcomes of this project is clear. This commitment also finds its expression in the Government's support for the achievement of the Year 2000 goals for children, its ratification of the Convention on the Rights of the Child and its signing of the joint UNICEF/Government Master of Plan of Operations for the current Country Programme (1996 - 2000).



III. Overview of Past Activities

The School Water Supply and Sanitation Project was initiated in 1992 as a pilot effort, with assistance from UNICEF's general resources. At the start of this project, emphasis was placed on the construction of water and sanitation facilities with the belief that these facilities constitute a basic requirement in schools. Today, construction activities are being supplemented by a more deliberate focus on behavioral development among school children, so that personal hygiene, sanitation and safe water use become integral part of their life style. Experiential learning is being promoted by encouraging their active participation in extra-curricular activities in partnership with teachers, parents and members of the School Management Committee (SMC). Over a period of the last five years, more than 3,500 schools have been covered, in 121 thanas and 50 districts. Also, as a part of the project, more than 32 thousand teachers and School Management Committee (SMC) members have been trained and oriented on how they can contribute towards behavioural development of school children concerning safe water use, sanitation, and hygiene. Several lessons were learned during the process.

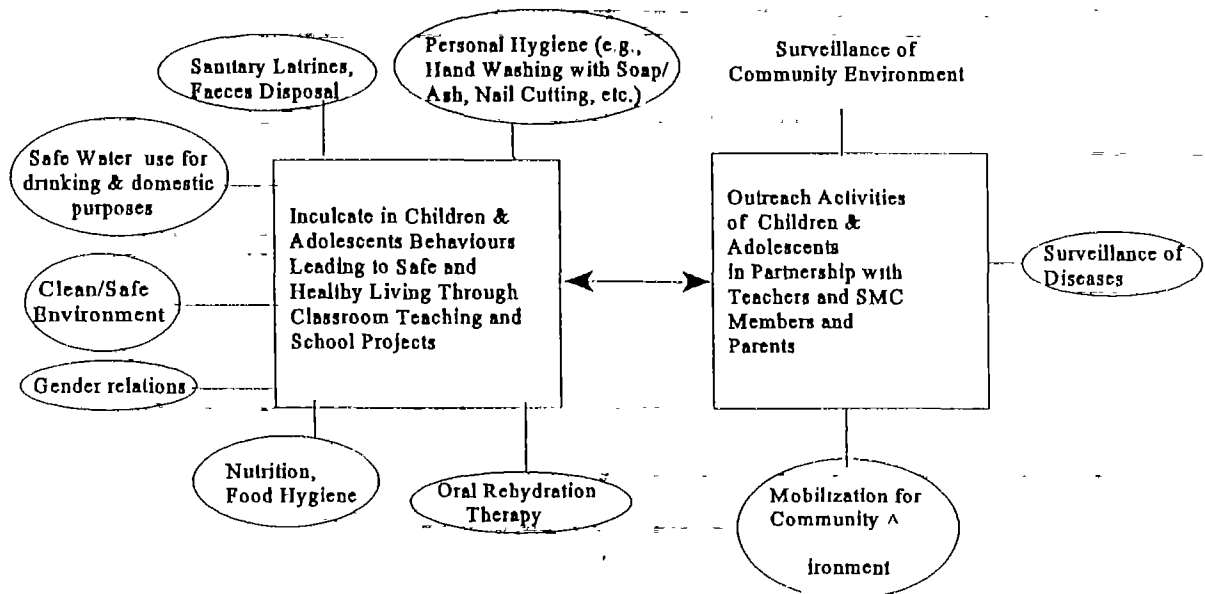
1. A comparison of survey results from 1994 and 1995 shows that the quality of construction and maintenance of water and sanitation facilities improved remarkably over the year. For example, the percentage of running tubewells in the sample schools increased from 68% to 89% and satisfactory discharge of water increased from 55% to 95%. Similarly, the status of clean and flushed pans increased from 36% to 80%. These are attributable to a monitoring system that combined inspection and corrective measures, thus indicating its tremendous importance as part of the implementation process.
2. The 1995 survey shows that 92% of the teachers from the sample schools got the training and 96% of them say that they are actively teaching lessons on hygiene and sanitation in their respective classes, following the training. It is encouraging that the fund for maintaining WATSAN facilities exists in 44% of the schools in 1995 as opposed to 7% in 1994, a sign of increasing initiatives taken by the teachers. Also, soap or ash was kept next to water facilities in 52% of the schools which helped encourage hand washing among the students after defecation, another sign of initiative triggered by teachers training.
3. In 1995 an action-research study in Moulavibazar was carried out in 5 schools to engage SMCs in implementation of the Programme. Several strong reasons were found that indicated the performance by SMCs to be far superior to that by contractors hired by DPHE. The time taken by SMCs for completion of construction was, for example, 28 days as opposed to 7-10 months by contractors. The quality of materials used and the overall construction by SMCs were proven to be cost-effective and as per specifications and plan-design. Contractors hired by DPHE general



4. Based on the study results from the experiment in Moulavibazar, the Secretary of the Local Government Division, from the Ministry of Local Government, Rural Development & Cooperatives (MLGRD&C) has issued the directive that all the activities under the School Sanitation Programme will henceforth be implemented through the SMCs. Multisectoral District and Thana committees of concerned Government officials have been formed to oversee the programme and provide appropriate guidance and technical support. Accordingly, this approach was initiated, from the later part of 1996, in 800 schools in six districts, one in each of the six divisions. The preliminary results of this latest initiative have been most encouraging. A thorough assessment of the experience is currently being planned.

5. In 1997, a module for Safe Learning Environment in Primary Schools is being developed and introduced on an experimental basis in Noakhali district. Figure 2 gives a framework for the experiment. There are two parts to the concept: (a) the first is to inculcate in children those behaviours that would lead to safe and healthy living through classroom teaching and experiential learning by engaging in school projects linked to various themes as shown in Figure 2; (b) the second pertains to outreach beyond the school to reach out to the community by enabling children to function as motivators for change. Both of these would be pursued in the form of extra curricular school projects with the help of teachers, SMC members and parents. A preliminary action-research study has been initiated in Noakhali district to examine the effects on the behavioural development of school children due to the construction of WATSAN facilities (4 schools) and by adding the SLE components (10 schools) as opposed to those where no facilities or SLE have been introduced (4 schools). Lessons learned from this study will help design an extension of the approach to other primary schools.

Figure 2. A Framework for School Sanitation and Safe Learning Environment





IV Project Description

UNICEF has two major Sanitation, Hygiene and Water Supply projects in Bangladesh, one focusing on rural areas and the other on urban slums and fringe areas. The School Water Supply and Sanitation Facilities constitutes a component of the Rural Project. As this project is noted in the UNICEF/ Government of Bangladesh Master Plan of Operations, it already has the support of Government and therefore the Government implementing agencies, including DPHE. So far this project has been funded by UNICEF through its own General Resources. Scaling up of this project will be funded through Supplementary Funds from external donors.

The intersectoral nature of this project provides strong grounds for UNICEF's involvement. UNICEF continues to hold programmatic leadership in the provision of safe water supplies and sanitary latrines. The Water for Children project is a major component in bringing about desired behavioral change throughout the community in order to increase the provision of, and correct use of safe water and sanitation facilities and bring about improved personal hygiene practices.

As a major component of the evolving Safe Learning Environment initiative, this is enhancing the quality of schools and the education available to students by introducing experiential and project-based learning and teaching practices. It is also a key ingredient in increasing the enrolment and retention of girls in schools and therefore crucial in enabling Bangladesh to reach its ambitious goals for the education of its children.

Conceptual basis

It is now clearly recognized that it is the presence of a pump and a latrine, together with the development of people's understanding of these amenities, whether and how they use them, and the promotion of health-improving virtues concerning personal hygiene, which make a critical difference in improving people's health. The current emphasis is hence on (i) constructing the basic water and sanitation facilities, (ii) creating a mind frame which leads to a clean environment and healthy behaviors and (iii) on bringing about greater convergence with such efforts as oral rehydration therapy, diarrhoeal case management, breast-feeding, immunizations, and nutritional supplements. In this respect, attention is being placed on the potentials of primary school students themselves to learn appropriate behavior and through them to motivate parents and other community members towards these desirable behavioral changes.



Objectives

1. To provide safe drinking water for 2 million children in 20,000 primary schools;
2. To make the primary school a resource centre for developing hygienic behaviours among students, teachers and School Management Committee (SMC) members as well as parents and other community members;
3. To contribute towards sanitary latrine coverage from the current 44% in rural Bangladesh to 80% by the Year 2000; and
4. To contribute towards the improvement of personal hygiene practices.

Construction of Water Supply and Sanitation Facilities

The main responsibility for the construction of the facilities rests on the School Management Committees which experience has clearly shown, creates ownership of the project, thus developing a sense of responsibility within the community to take care of the facilities. At the moment UNICEF procures the supplies for this programme and these are dispersed through DPHE stores. The School Management Committees access these supplies from DPHE's Thana level stores. However UNICEF believes that there is much merit in experimenting with developing private sector capacity to provide supplies for this programme. Cost and quality levels could be controlled through a bidding process and quality could be monitored by an independent agency contracted by UNICEF. Another issue that is being looked into is how to ensure consumer protection and operationalize an accountable funding mechanism through the School Management Committees on a large scale.

Project Based Approach to Safe Learning Environment

Teachers and students in each school will identify a school based project for learning about safe use of water for drinking and household work, hygienic behaviour, safe disposal of waste, protection of the environment from pathogenic contamination, and disease prevention. Children will identify an entry point for start up of each project and then branch out to other related areas so that they understand in a practical project how safe water, waste disposal, hygienic behaviour disease prevention are all related to each other. Several entry points have been identified and are being used. These include the water pumps in the school and improved latrines. This new approach will be more meaningful for children, and engage the children's multiple intelligences in a practical and interesting set of activities.



Each teacher will be given an orientation on the new project based methods, and provided with a resource kit which includes a description of the project, project ideas, information on facts for life, guidelines on project development, and ideas on entry point and relationship maps to other related activities.

School as a resource centre and agent for change in the community

The projects will initiate community extension activities to involve families and the community in the project activities so that the children and their families reinforce each other in the new skills learned through the project and the community is supportive of children to address some of the wider issues which only the community at large could meaningfully tackle. The school will be a setting in which many of the social services converge. It will become a resource centre for the community where children and adults will interact to learn from each other.

Geographic Scope and Targeted Beneficiaries

This project will cover 20,000 schools in 50 districts of Bangladesh. The implementation of the Project will be phased over four years (1997 - 2000), by which time all schools in the 50 districts will be participating. This implementation schedule mirrors that of UNICEF's Accelerated District Approach (ADA) to programme implementation.

1997	5 Districts
1998	15 Districts
1999	15 Districts
2000	15 Districts

Direct beneficiaries of the Project would be more than 2 million children who attend the primary schools who are currently deprived of the basic water and sanitation facilities. The indirect beneficiaries would be about 1 million households that send children to the primary schools and more than 100,000 communities that fall under the primary school catchment. These households and communities are expected to be influenced by the children and teachers in terms of behavioural change in sanitation and hygiene practices.

Rights perspective

This project has a direct impact on meeting a number of universally accepted rights that children have, as detailed in the Convention on the Rights of the Child. These relate particularly to rights to participation, to access quality education, and to attain an adequate standard of living and the highest possible standards of health care (Articles 24,27,28 and 29 of the Convention on the Rights of the Child)

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Environmental perspective

The environmental impact of this project is explicit and significant. The immediate impact will be a reduction in the pathogen load within the school or learning environment. Through programmed behavioral change, first in students, teachers and then parents and eventually the wider community there will be an increase in the use of safe water for all household needs, an increase in demand for sanitary latrine hardware, a decrease in the pathogen load within the environment and a decrease in hygiene related disease incidence and malnutrition.

V Implementing and Coordinating Agencies

Technical and management support for the Project will be provided by many agencies as shown in Figure 3. The principal roles of the main actors will be as follows.

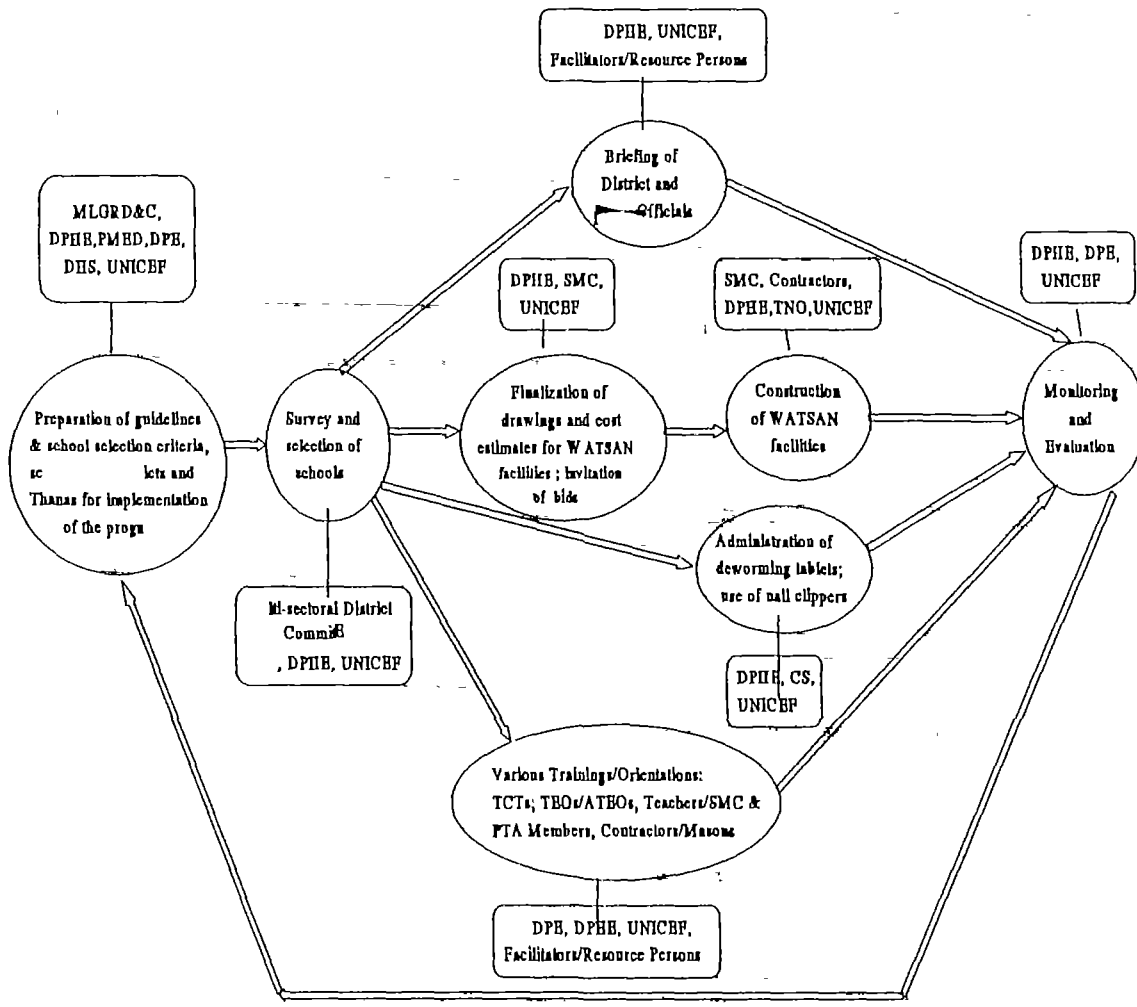
UNICEF: From within UNICEF, this project will be managed by a team who will be responsible for coordination, monitoring and follow up. Team members will have expertise in Water and Environmental Sanitation, Education, Health and Nutrition, Child Rights, Child Participation, Procurement and Supply. This team will be supported by Project Funds and will utilize UNICEF's ADA staff structure and field presence for coordination, monitoring and follow up.

DPHE: Four activities will be performed by DPHE. (i) They will undertake technical training at all levels; and (ii) they will undertake orientation activities at the district level; (iii) they will act as the channel through which disbursements will be made to the SMCs in cooperation with the Thana Nirbahi Officer; and (iv) regular monitoring, especially of the construction of water and sanitation facilities. For these the capacity already exists within DPHE. However for (iv) monitoring implementation and ensuring quality, UNICEF will need to facilitate capacity building of DPHE for greater effectiveness.

DPE: There are three major activities which will involve DPE (i) training teachers, (ii) distributing training materials and resource packages, (iii) monitoring school level activities through Thana Education Officers and Assistant Thana Education Officers. The capacity already exist within DPE to perform all these activities.



Figure 3. The Process and Concerned Agencies/Actors in the School Sanitation Programme



See page 14, pp(Annex 3)



VI Monitoring and Evaluation

Activities and outputs at all levels of this project will be monitored appropriately. Methods will include the already established annual Multiple Indicator Cluster Survey, Knowledge Attitude and Practice Studies, Monitoring by Thana Education Officers, the Union Watsan Committee chairperson and UNICEF staff. Please refer to the Project Matrix at the beginning of this paper for a more detailed breakdown of the various indicators to be used and methods of monitoring these.

The School Water Supply and Sanitation Project will be subject to an annual internal UNICEF peer review, facilitated by the Chief of WES and Chief of Education. This will involve UNICEF staff, consultants and Government counterparts. This process will feed into the Annual reporting process to donors.

It is also proposed that there be a bi-annual project review by donors. This would be facilitated by the Chief of WES.

VII Sustainability

Appropriate technology

The technology used within this project is already being widely used throughout Bangladesh, indeed most of the handpump technology was developed within this country. Therefore the infrastructure needed to maintain and service these pumps is already in place at the village level. Water seal latrines will be used in all installations, which are also manufactured within Bangladesh. The maintenance of these will be the subject of training and participatory project work within the school environment.

Community Participation

Community Participation at all levels of this project is crucial to the success of this project in terms of both effectiveness (making sure that the various activities occur) and efficiency (ensuring that the quality of work is high while costs are kept low). The action-research study in Moulavibazar in 1995 strongly supports this. All three phases of the implementation process of this project has been designed to maximize community involvement, participation and ownership of the process.

Phase I - Pre construction. The School Management Committees made up of representatives



of the local community will plan the construction process, engaging trained labor and liaising with Thana and DPHE officials with regard to funding and procurement of supplies. The community through the School Management Committee will also provide land for the school water and sanitation facilities.

Phase 2 - Construction. This process will be overseen by the School Management Committee, who may also facilitate the donation of labor and materials from the community. Where School Management Committees have been thoroughly involved in this process in the past, it has been noticed that the quality of the construction work is extremely high and a number of extra features are often added to the building enhancing the quality of the facilities provided.

Phase 3 - Post construction. Through children and teachers working on lesson-based projects, both in the school and community, promoting and improving their own hygienic behavior and giving practical demonstrations at home and the community the school will serve as a resource center and an agent for change in the community. Project-based learning will promote development and change in hygienic behavior among school children, their families and community to improve their health and quality of life through reducing morbidity, mortality and environmental degradation.



VIII Project Budget

This indicative budget presented below is based on the pattern of expenditure incurred in the Water for Children Project in 5 districts in different parts of the country where the Accelerated District Approach (ADA) is being pursued intensively in 1997.

BUDGET FOR 20,000 SCHOOLS

(1997-2000)

(In US\$ thousands)

	1997	1998	1999	2000	Total
1. Hardware cost					
(A) Shallow Tubewell area	1,040	3,120	3,120	3,120	10,400
(B) Tara Handpump area	530	1,590	1,590	1,590	5,300
(C) Deep Tubewell area	330	990	990	990	3,300
2. Training/Orientation	250	750	750	750	2,500
3. Monitoring & Evaluation	80	240	240	240	800
4. Project Support Cost	100	300	300	300	1,000
Sub-Total	2,330	6,990	6,990	6,990	23,300
5. 3% General Cost Recovery	70	210	210	210	700
TOTAL	2,400	7,200	7,200	7,200	24,000

